

SEVERE LOCAL STORMS.

[The table herewith contains such data as have been received concerning severe local storms that occurred during the month. A more complete statement will appear in the Annual Report of the Chief of Bureau.]

Place.	Date.	Time.	Width of path (yards).	Loss of life.	Value of property destroyed.	Character of storm.	Remarks.	Authority.
Chicago, Ill., and Great Lakes region.	5-6					Wind.....	Lake traffic tied up. Three vessels reported missing, others forced to seek shelter. Heavy damage at Sault Ste. Marie.	Times (Washington, D. C.); Star (Oneonta, N. Y.).
Jefferson, Tex.....	7	5-7 a. m.			\$5,000	Electrical and rain, followed by small tornado.	Wind damaged roof of post office and unroofed several buildings.	Times Herald (Dallas, Tex.).
Lake Oneida, N. Y.....	5				150,000	High winds.....	5 barges and some 50,000 bushels of wheat destroyed.	Official, U. S. Weather Bureau.
Lizard Island (75 miles north of Point Aux Pins, Ont.).	13			27?		do.....	Tug Reliance wrecked on rocks. 27 persons reported missing. Survivors exposed to severe cold.	Post; Herald (Washington, D. C.).
Tullahoma, Tenn.....	14-15					Thunderstorm....	A number of houses were blown from foundations and 2 barns destroyed. Loss estimated at thousands.	Official, U. S. Weather Bureau.
Port Arthur, Tex.....	26	7:25 p. m.	30-50		10,000	Small tornado.....	One child injured; several small buildings destroyed and others unroofed. Considerable damage to telephone, electric wires, and poles.	Do.
Reno, Nev., and vicinity.....	27					High wind.....	Telephone poles were blown down and haystacks damaged in a few localities.	Do.
Hinds, Grenada, and Lee Counties, Miss.	27	12-1 a. m.		5	100,000	Probably tornadoes.	Several houses destroyed; poles and wires down. Heavy property damage in Grenada.	Official, U. S. Weather Bureau; Commercial Appeal (Memphis, Tenn.).
New York State and north Atlantic seaboard.	27, 28, 29			1		Rain, snow, wind, and sleet.	Hundreds of persons injured; buildings and signs damaged; transportation paralyzed. Several boats wrecked, the crews of 3 of which are missing.	Press (Binghamton, N. Y.); Star Gazette (Elmira, N. Y.); World; Times (New York).
Northeastern Ohio.....	27-28				350,000	Sleet, snow, and wind.	8 persons injured, traffic interrupted, trains delayed, and many trees and poles down. Greatest loss to the Ohio Telephone Co.	Official, U. S. Weather Bureau; Journal of Commerce (New York).
Southern New England coast.	28					do.....	Communication cut off at Block Island. No other damage reported.	Do.
Newport, Oreg.....	30					High winds.....	Boat traffic tied up.....	Oregonian (Portland, Oreg.).

STORMS AND WEATHER WARNINGS.

WASHINGTON FORECAST DISTRICT.

Although very stormy weather prevailed much of the month along the steamer lanes between North America and Europe, the intense cyclonic areas charted over the north Atlantic Ocean did not become severe storms until after they had passed eastward from the New England coast, except on the 28th-29th, when a storm of exceptional severity prevailed along the coast north of Delaware Breakwater. Several stations reported maximum wind velocities of 60 miles an hour or more from the northeast, attended by thick weather with rain or snow, the highest velocity, 72 miles an hour occurring at Block Island, R. I., during the afternoon of the 28th. This storm developed during the 24th-25th over the central Rocky Mountain and Plateau regions, whence it moved slowly eastward with increasing intensity and was central over Arkansas on the morning of the 27th.

At this time a strong anticyclone was advancing eastward over Ontario and Quebec and a marked increase in pressure was in progress over New England and the Canadian Maritime Provinces. This distribution of pressure is always attended by stormy weather along the north Atlantic coast within 24 to 36 hours; therefore in the regular morning forecasts of the 27th was included the statement that there was a possibility of dangerous gales the following day along the coast from New Jersey northward. Northeast storm warnings were ordered displayed at 6 p. m. from Delaware Breakwater to Eastport, Me., and at 9:30 p. m. southeast warnings were displayed south of Delaware Breakwater to Cape Hatteras. The following morning the storm was central over Virginia and West Virginia with a strong pressure gradient to the northeastward and whole-gale warnings were ordered displayed at 9:30 a. m. from Block Island, R. I., to Provincetown, Mass. The storm center passed some distance south of Nantucket, Mass. (moving east-northeastward), the morning of the 29th, and all warn-

ings were lowered by the morning of the 30th. Heavy snow fell over portions of New England and New York during the 28th-29th.

Storm warnings were displayed along portions of the middle Atlantic and north Atlantic coasts on a number of dates earlier in the month in connection with disturbances that moved eastward over the Lake region and the upper Ohio Valley, but no winds of 50 miles an hour, or over, were reported, except 52 miles from the northwest at New York, N. Y., on the 5th and 66 miles from the northwest at Block Island, R. I. on the 6th.

Cold-wave warnings were issued for portions of the Washington Forecast District on the 5th, 11th, 12th, 14th, 17th, and 18th, and these warnings, except that of the 14th, were verified over most of the areas for which they were issued.

Frost warnings were issued for portions of the South Atlantic or the East Gulf States on the following dates: 9th, 10th, 17th, 19th, 22d, 23d, 28th, 29th, and 31st; however, none were issued for southern Florida.—*Charles L. Mitchell.*

CHICAGO FORECAST DISTRICT.

Storm warnings.—The severe storm that reached the Lake region on the closing day of November moved rapidly eastward on December 1, and by night the center was over the mouth of the St. Lawrence River. At 3 p. m. of the 1st, northwest warnings were issued for the central and eastern portions of Lake Superior, but these, as well as the warnings that were continued on Lake Ontario on the night of the 1st, were lowered on the following morning. In both cases, however, the warnings were justified.

On the morning of the 4th a disturbance that developed two days previously over the State of Washington was central over northwestern Missouri, with increasing energy. Accordingly, southeast warnings were issued for southwestern Lake Michigan, except Chicago, and northeast warnings for the northwestern portion of the